COMMODITIES

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The problem with wild prices

Industrialisation in China has been a main driving force of the supercycle and the supply response has been slow. **Javier Blas** reports

Commodities prices have returned to global prominence with a vengeance.

After the fall triggered by the financial crisis in late 2008 and a lacklustre stabilisation the following year, prices rose strongly in 2010. But in the past few weeks that the cost of commodities from oil to copper has again surged to the point that they are a big concern for both policymakers and investors.

The industrialisation and urbanisation of China is the main driver of the so-called supercycle.

The price jump, which saw oil trading at a two-and-a-half year high of $125 a barrel has coincided with the launch of a multibillion dollar initial public offering by Glencore, the world's largest commodities trader.

The timing has prompted suggestions that the sale of Glencore may herald the beginning of the end of the commodities super-cycle, much as the flotation of Goldman Sachs, the investment bank, in the late 1990s and private equity house Blackstone in 2007 marked the collapse of the equity bull markets..

In fact, Glencore's sprint towards its IPO has coincided with wild price gyrations across most commodities markets. Oil, for example, saw a record drop of more than $10 in a single day, and other raw materials also weakened substantially.

Prices have recovered somewhat and the consensus in the industry is that the supercycle is alive and well. Paul Horsnell, head of commodities research at Barclays Capital in London, says: "Across commodities, the outlook is fairly constructive, very much driven by the long-term cycle of booming demand from emerging countries." This echoes a widely held view among analysts, traders and executives.

The benchmark Reuters-Jefferies CRB index, a basket of commodities including oil, copper, wheat and sugar, has risen 36 per cent over the past year, although it is down about 5 per cent from the two-and-a-half year high it reached in early May.

The main structural change over the past decade, compared with the period of low prices of

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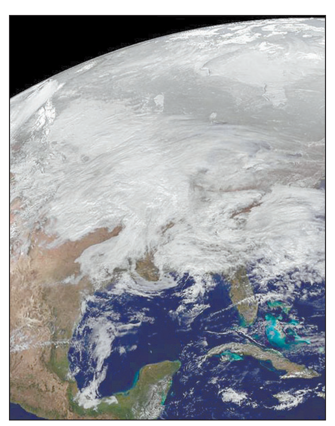

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Problem with wild prices

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the 1990s and late 1980s, is the rapid growth in emerging and developing nations, which has lifted and changed the pattern of commodity consumption.

At the same time, the supply response has been slow, because of a combination of natural resources companies' initial cautious response to the price boom, a surge in cost inflation, and resources nationalism by commodities producers.

Michael Lewis, head of commodities research at Deutsche Bank in London, says "investor positioning can have a short-term effect on commodity markets, just as investor flows can disrupt fixed income and equity markets".

He adds, however, that fundamentals will ultimately drive the direction of commodity prices. The fundamentals appear, for the time being, relatively robust even if global economic growth could slow down due to, precisely, the impact of high prices.

The main worry for investors in commodities futures and equities alike is that the high prices – particularly if they go much higher – could have the effect of reducing demand and thus hit growth.

Oil demand, for example, has already cooled from the torrid level of 2010. The International Energy Agency, the western countries' oil watchdog, forecasts that oil consumption will grow this year by about 1.3m barrels a day, down from 2.8m b/d last year. Analysts believe the growth in copper consumption is also slowing, and there are signs that demand growth for some agricultural commodities, such as corn, is also slowing.

In any case, the International Monetary Fund believes that "commodity price risks remain tilted to the upside" and warns that "genuine resource scarcity concerns are now widespread".

The market pays attention to the IMF's views as it has accurately predicted some recent price movements, and has been among the few official institutions to consider the downturn in 2008-09 as a mere pause in the commodities supercycle, rather than its end.

The issue of high commodities prices will feature strongly at a special meeting of the G20 of leading economies in Paris next month.

"There is a growing acceptance among governments that there are long-term issues around commodities that were neglected during the 1990s," says Mr Horsnell at Barclays Capital.

The coming year offers bearish and bullish tales across commodities, but the broad consensus is that high prices are here to stay.

Prospects for energy commodities are mixed.

Oil prices are set to remain high because of robust demand and supply disruptions, particularly in the Middle East and north Africa.

Coal prices are likely to stay high, as bad weather and export bottlenecks hamper the supply disruption to rising demand.

On the other hand, the almost unanimous consensus is that natural gas will stay low for the third consecutive year because of booming production growth in the US.

Metals prices also offer a mixed environment, with traders still largely bullish on copper and aluminium, but turning bearish on nickel. But the fever of six months ago, when there was talk of copper prices hitting $12,000 a tonne this year, has largely evaporated. Copper is now trading at about $9,000 a tonne.

> The issue of high commodities prices will feature strongly at a special meeting of the G20 in Paris next month

Among the bulk commodities, traders and analysts are bullish about iron ore, which is holding at near record prices in spite of falls in other commodities. The strength of the main ingredient of steel comes on the back of low supplies from top exporting countries Australia, Brazil and India, and robust demand from China.

Agriculture will be dominated by weather patterns. These could nullify efforts by farmers to increase planting areas in response to the highest prices since the 2007-08 food crisis.

Lack of rain in northern Europe and the southern US is hampering the wheat crop, while wet and cold weather in the US corn belt is delaying planting, thus cutting the potential for a rebound in production.

Trading places: high commodities prices could sow the seeds of destruction Bloomberg

Commodities

Veil slowly lifts on a secretive profession

Trading houses

Javier Blas shines a spotlight on publicity-shy middlemen

The alarm clock rings and the day begins. From the moment the lights are switched on, hot water runs in the shower, breakfast is served, and, later, the car sets off on the daily commute, we consume dozens of commodities: power, natural gas, coffee, wheat, sugar and petrol.

Unawares, we use the services of the world's largest trading houses, a cluster of publicity-shy companies that act as the link between producers and consumers of raw materials.

For years, the world of trading companies – from Vitol, whose strength in oil, to Cargill, in grains, and Glencore, in metals – has been largely opaque. But the veil is slowly lifting, with the initial public offering of Glencore, the world's largest commodities trader, bringing unprecedented attention.

The industry is tightly knit: just a dozen or so companies share most of the revenues and profits. In oil, the top houses are Vitol, Glencore, Trafigura, Gunvor and Mercuria, all headquartered in Geneva.

The Swiss city has emerged as the largest centre for trading physical energy commodities, rivalling London and outshining Singapore and Houston. In metals, Glencore and Trafigura dominate, with other operators on the sidelines.

In agriculture, four big companies, known in the industry as "ABCD" based on the first letter of each name, dominate global flows: Archer Daniels Midland, Bunge, Cargill and Louis Dreyfus Commodities.

In addition, Japan's general traders, or *sogo shosha*, dominate at home and in the region: Mitsubishi, Mitsui & Co, Sumitomo, Itochu and Marubeni.

A new legion of originally Asia-focused trading houses, including Noble Group, Olam International and Wilmar, are expanding globally.

In many ways, the trading houses are the hidden companies of the global economy.

They are the nexus of the natural resources industry, linking producers such as farmers, oil and mining companies, with consumers around the world. Their importance is set to grow further, as food demand rises in China, India and in other parts of the developing world, and the use of biofuels grows in the west.

Commodities and the big trading houses have been attracting increased attention from policymakers following the price spikes since 2003. Long the preserve of agriculture and mining ministers, commodities are now hotly debated by the Group of 20 leading industrialised countries.

The biggest trading houses are set to earn between $25bn and $30bn in profits this year, according to analysts' preliminary estimates, a significant rebound from last year's lacklustre performance.

The surge in profits is partly the result of rising commodities prices, which lift the performance of the production businesses of the traders. It also reflects supply dislocations. These include bad harvests last year followed by the imposition of grain export bans, and upheavals in oil producing countries of the Middle East.

Amid surging profitability, the industry is in transition. For years, companies such as Phillip Brothers, Marc Rich and Metallgesellschaft, focused on buying and selling raw materials, acting as mere middlemen. Now, many companies are leaving their traditional model behind – a business of large volumes but thin profits – and buying production assets and logistics businesses.

The move from middlemen to vertically integrated companies owning oil terminals, warehouses, mines, farmland and processing plants is changing the face of the industry: boosting profitability, but at the cost of larger capital needs.

As such, traders are looking for options: some are considering becoming publicly listed; others are tapping the bond market for the first time and some are seeking strategic investors to help finance their fixed assets.

Glencore is leading those going public. Some executives, including Sunny Verghese, chief executive of Olam, the Singapore-listed agricultural trading house, believe the trend to go public will continue.

Not everyone is convinced.

Some executives see value in remaining private. Vitol and Cargill, the world's largest oil and agricultural traders, respectively, say they will stay private, but bankers believe that Glencore's IPO, with its sky-high valuation of about $60bn, and the need to raise finance, can bring changes to the industry.

Louis Dreyfus Commodities, controlled since its foundation in 1851 by the Louis-Dreyfus family, is looking for a $10bn-$12bn sale, merger or IPO to fund its expansion plans, according to bankers and rivals.

Last year, it approached Olam for a merger but talks collapsed amid disagreement among family members.

Others are looking for partners to help finance their move outside the traditional role of buying and selling commodities.

Vitol, for example, sold half its oil terminals and tanks business last year to a subsidiary of Petronas, Malaysia's national oil company, for $735m in cash.

Trafigura, too, is searching for a strategic investor for its oil terminals and storage business.

A prospective investor in Glencore

Water pressure: demand for commodities is expected to grow at a double-digit rate in the next 10 years and supply hiccups are likely to be more frequent due to extreme weather Reuters

Price volatility is here to stay

Guest Column
JOHN DRZIK

Japan's nuclear crisis and unrest in the Middle East have triggered price spikes and supply disruptions in everything from oil to wheat and gold.

It is tempting to view these recent price swings as a temporary phenomenon. They are not. They are the new normal.

Changes in both supply and demand dynamics are likely to create a long period of sustained commodity price volatility, with significant downstream implications for many businesses.

There are a number of structural reasons for the sustained increase in commodity price volatility. Global demand for commodities will grow at a double-digit rate over the next decade because of population growth and economic development.

Rising demand is likely to fuel investment in commodity extraction, encouraging operators in these businesses to consider increasingly risky projects that will be more prone to disruption.

Supply hiccups will also be more frequent due to changing climate patterns and the increasing number and magnitude of extreme weather events that they will cause.

Shortages in some regions are likely to be further exacerbated by a rising number of governments taking unilateral action to cope with local scarcities. Russia, Pakistan, India and Vietnam have all restricted exports of agricultural commodities, from grain to cotton.

Further price swings might be created by political choices related to the trade-offs inherent in addressing interconnected resource shortages. For example, the International Energy Agency predicts the globe will need 3.2m b/d of biofuels to meet policy incentives related to reducing vehicle emissions. However, producing those fuels could amplify food shortages and put further pressure on water shortages too. The range of geopolitical and environmental uncertainties surrounding commodity supply is expected to fuel financial speculation in commodities – amplifying price volatilities even further.

Commodity price volatility and its management have always been critical issues in some businesses. For example, they have been on the agenda of airline chief executives, as jet fuel prices have been a strategic issue for some time. Now, however, no matter whether a company competes in the technology sector, and therefore depends on rare-earth minerals, or automotive and cell phone sectors, and relies on semiconductors, commodity price volatility has an impact on the profitability of companies across the board.

Nevertheless, many businesses treat commodity price volatility as a tactical management issue to be worked through periodically. This issue will become more important to many companies since the degree of impact of commodity price swings on the volatility of overall earnings will rise and have more than a temporal effect.

> Chief executives need to determine the degree to which taking price risk fits with appetite and expectations

The stakes are rising. Oil prices have risen above $100 a barrel for the first time in two-and-a-half years. Companies and consumers will need to figure out a way to pay $1,000bn more for oil this year than they did in 2010.

But that estimate just scratches the surface of the costs that companies and consumers will need to bear, because there have been recent increases in the prices of many other commodities as well.

As a result, businesses are all struggling to manage the volatility that raw material prices are introducing into their earnings.

Some are discovering that the cost of their electricity supply, for example, is becoming a core driver of their earnings. Others are being forced to renegotiate contracts with their suppliers – if customers do not accept higher prices, suppliers are at risk of going bankrupt because they are having to pay much higher prices for raw materials.

Chief executives need to determine the degree to which taking commodity price risk fits with their risk appetite and shareholder expectations.

It might be that their investors expect the company to have this risk, and fully expect to see the resulting increase in earnings volatility. However, it might also be that the bet investors are making on the company lies in other factors, such as superior operational management or customer distribution. In these businesses, chief executives are likely to want to mitigate the effect of commodity price swings on earnings.

These companies need either to invest in risk management capabilities or redefine their business models, so they are not directly exposed to the risk. Separately, all companies should consider investing to ensure more effective and efficient use of resources and commodities to reduce their overall exposure to volatile prices.

We are entering an era of commodity price volatility, likely to extend for 10 years or more.

The impact on the earnings volatility of many companies is likely to be substantial and sustained – and have a meaningful effect on shareholder returns.

Companies need to decide whether to change their business model or management approach or both to align their commodity risk exposure to their risk appetite. Chief executives should have this issue on their radar screen and take the lead in arriving at an answer.

The writer is chief executive of Oliver Wyman Group

Comfortable cushion disappears

Oil

Gregory Meyer reports on the world's dwindling spare capacity

Oil markets have shifted from flush to strained, with big implications for the global economy.

As recently as January, the world was sitting on what appeared to be a comfortable cushion of extra supply. Thanks to output cuts made in response to the recession, Opec, the producers' cartel, maintained spare capacity of 5m barrels a day, or more than 5 per cent of global demand.

Then anti-government protests in Tunisia spread elsewhere in north Africa and the Middle East, first raising fears about oil shipments and then curbing output as they reached Libya, an Opec member now embroiled in civil war.

The International Energy Agency estimates Opec's effective spare capacity has since fallen to 4m b/d – and benchmark Brent crude is well north of $100 a barrel.

The global economy, on the upswing from the financial crisis, has so far weathered the rise better than when crude first breached $100 three years ago. But analysts worry that sustained high prices or another surprise loss to output would sabotage the recovery.

Oil companies from ExxonMobil to Petrobras, the state-controlled Brazilian producer, have reported surging profits this year, owing to high prices. Cash has flowed into the coffers of oil exporting nations, enabling Saudi Arabia to boost social spending in the face of regional unrest.

The US Energy Information Administration forecasts crude will average $103 this year and $107 next, because of demand in emerging economies and slowing supply gains outside Opec.

Higher prices are putting pressure on consumers and have revived government inquiries into the cause. In the US, oil executives have been hauled before lawmakers to defend tax breaks, while government lawyers are scouring markets for evidence of manipulation. Rising oil costs are contributing to inflation, forcing central banks from China to India to raise interest rates.

Fast-moving prices have also prompted more companies to hedge risks – and encouraged hedge funds to wager on them. Trading volumes in crude oil futures have notched new records this year.

> The IMF, in its latest economic outlook, says global oil markets have entered a period of increased scarcity

The uncertainty has also boosted the commodities desks at banks where the fee pool is expected to rise to between $9bn and $11bn this year, from $6bn to $7bn in 2010, according to Nomura Securities.

"Volatility has clearly almost doubled since the second half of 2010," says Fasil Nasim, head of energy sales at BNP Paribas in London. "This has meant that clients are getting a lot more serious about managing risk. Also, from a general trading perspective, it's definitely a lot more exciting than what we saw in 2010."

New supplies are opening up in response to higher prices. Canada's production, led by its western tar sands region, is expected to rise 18 per cent to 3.3m b/d by 2015, according to the Canadian Association of Petroleum Producers. Brazil's offshore fields have turned it into a net crude exporter. US production is at the highest level since 2002.

Last year's Macondo oil spill in the Gulf of Mexico highlights the costs and risks of bold drilling programmes, however. And some expected supplies are not appearing as quickly as hoped: Iraq, which hoped to quadruple production to 12m b/d by 2017, is unlikely to reach this target because of constraints in pipelines and export terminals, industry executives say.

Tight supply: demand to stay high, despite price rises Epat

The International Monetary Fund, in its latest economic outlook, says global oil markets have entered a period of increased scarcity. It also warns of a price spike similar to 2008, when crude surpassed $145 a barrel, if the tension between falling supply and rising demand intensifies.

The IEA projects oil consumption will grow to a record 89.2m b/d this year on the back of surging demand in Asia, the Middle East and Latin America. The agency recently shaved its demand forecast, saying $4-a-gallon petrol is chastening US drivers.

Countries such as Russia, Brazil and China have struggled to pass on the full force of price increases, bolstering demand, the IEA says.

Yet Amrita Sen, commodities analyst at Barclays Capital, notes that even when retail fuel prices have climbed, as in China and India, demand is stronger.

"Even with these kinds of price levels, the reason we're not seeing any significant reaction is because these countries' oil demand is rising from a very low base. They are nowhere near the US in terms of per capita oil consumption. For these countries, income effects dominate the price effect. When you earn more, you will spend it on luxury goods such as cars, irrespective of price," Ms Sen says.

Prices go skyward but stocks remain on earth

Precious metals

Investors want the bullion rather than the equities, says **Jack Farchy**

'People investing in bullion are not looking for appreciation, they're looking for diversification'

It has been a tough few months for investors in Fresnillo. As the silver price soared 55 per cent from January to April, the Mexican miner – the world's largest of pure silver – saw its shares fall slightly. Then, when the silver price plunged 28 per cent in the first 12 days of May, Fresnillo nearly matched its fall with a 20 per cent drop in its share price.

Fresnillo is not alone. Across the mining industry, the shares of precious metals producers have struggled to keep up when gold and silver rise – only to follow their movements painfully accurately when they fall. "People have been quite disappointed on the equities side," says Edel Tully, precious metals strategist at UBS. "They didn't perform so well on the upside and now they're getting killed on the downside."

Almost every big gold and silver producer's shares have fallen this year, even as gold and silver prices rallied.

One reason for the difference in performance is prosaic: as silver has demonstrated in the past month, commodities are typically more volatile than equities. So, as prices looked skywards in April, mining stocks remained firmly on the earth.

But the shifting fundamentals of the industry also lie behind the divergence. Mining precious metals is a tricky, often dangerous, business – many miners have failed to meet production targets in recent quarters. Moreover, many miners operate in risky geographies, discounting their shares.

More importantly, costs are rising sharply. Oil prices have jumped since social unrest swept the Middle East, and a global investment boom in the mining sector has driven up the cost of equipment and labour. Even miners in less risky countries, such as Canada, Australia or South Africa, have seen a sharp appreciation in local currencies, meaning they are not enjoying the full benefit of the appreciation in gold and silver prices.

That means cost inflation for the gold mining industry could hit 20-25 per cent this year, according to RBC Capital Markets, if current prices of oil, energy and steel are maintained.

"One of the real threats is that cost inflation starts to pace commodity price appreciation and therefore the margins for these companies don't expand much," says Daniel Brebner, metals analyst at Deutsche Bank.

While these factors are weighing on margins across the industry, they cannot explain wholly the large divergence between the performance of some mining shares and the prices of the commodities they produce.

Instead, bankers and analysts say, the differing returns reflect different communities of investors in the two types of asset.

Since the 2008 financial crisis – and increasingly as sovereign debt concerns have heightened anxiety about the safety of all currencies – investors have been buying bullion as a hedge against shocks that could drive the world back into recession and send equities into a tailspin.

"People investing in bullion are not looking for appreciation, they're looking for diversification," says James Steel, precious metals strategist at HSBC.

"If you want it as a diversification, you want bullion rather than equities." That logic applies even to investors whose scope is restricted to equities. Since the advent of exchange-traded funds that issue shares backed by physical precious metals, investors have easy access to equities that mirror the movements in the price of the metals much more closely than any mining share.

Mr Brebner says that buying mining equities to get exposure to the gold and silver price "seems needlessly indirect, as most investors can easily gain exposure to the metals via a physical or related derivative or ETF".

As if to underscore that point, Barrick Gold, the world's largest gold miner, last month took a significant step away from gold with a $7.6bn bid for Equinox, the copper miner. Investors panned the move, and the shares slumped 17.5 per cent in three weeks.

Despite all this, however, some analysts see an opportunity in the shares of precious-metal miners. The push among investors to own the metal rather than the miners may, they argue, have left equities undervalued – particularly because, unlike gold or silver, shares can pay dividends.

All that glisters: investors have been buying bullion as a hedge against any further recessionary shocks Bloomberg

Base metals The sharp rise in the cost of energy has fuelled aluminium prices

Political turmoil in the Middle East, spiking oil prices and the earthquake in Japan have rattled nerves in markets for most industrial metals. But not that for aluminium.

The sharp rise in the cost of energy since the start of the year has breathed new life into the metal, used in everything from cars and aircraft to drinks cans.

The price rallied almost 30 per cent between November and a peak above $2,800 a tonne in early May. Even after a sharp correction, by mid-May it was the only important metal traded on the London Metal Exchange to be higher on the year so far.

The rally is all the more notable since few investors or traders were interested in betting on it last year, preferring the supply-constrained story of copper. Much of aluminium's recent outperformance is thanks to the rally in oil prices. The relation is so strong because producing it is energy-intensive. Goldman Sachs recently upgraded its price forecast for 12 months hence to $2,900 a tonne – the highest since mid-2008 – while Barclays Capital expects an average price of $2,700 a tonne in the final quarter of 2011.

Tightness in the energy markets could provide further support in the coming months. In China, which supplies 40 per cent of the world's aluminium, some provinces have started rationing electricity and officials have warned the country faces its most severe energy shortage since 2004.

Not everyone is falling in love with aluminium, however. Some analysts point to the extremely high level of inventories built up when manufacturers slashed production during the financial crisis. Inventories in LME-registered warehouses, for instance, have risen 10 per cent since January and now stand at 4.7m tonnes – enough to build 70,000 Boeing 747s. The inventory overhang has not caused prices to crash because most of it is tied up in warehousing deals held by banks and traders. However, the deals rely on a combination of low interest rates, financial incentives and the fact that aluminium for delivery soon has traded at a large discount to longer-dated futures.

Max Layton, metals analyst at Macquarie, warns that when interest rates start to rise, 3m-4m tonnes of aluminium could be released on to the market, triggering a price collapse. He forecasts prices will trade between $2,400 and $2,800 a tonne until then, before diving as low as $2,000 in the first half of 2012.

Jack Farchy

In urgent need of a huge injection of investment

Profile
Codelco

Jack Farchy finds creative plans at Chile's state miner

One hundred years of hunger for copper have turned El Teniente, a volcanic mountain in the Chilean Andes, into a vast anthill.

The world's largest underground mine, it contains 2,400km of tunnels populated by squat earthmoving trucks and fully equipped with canteens, workshops and offices.

"Down here, you have no idea what is happening on the surface," says Rodolfo Reyes Sanhueza, a manager at the mine. "It is a world of its own."

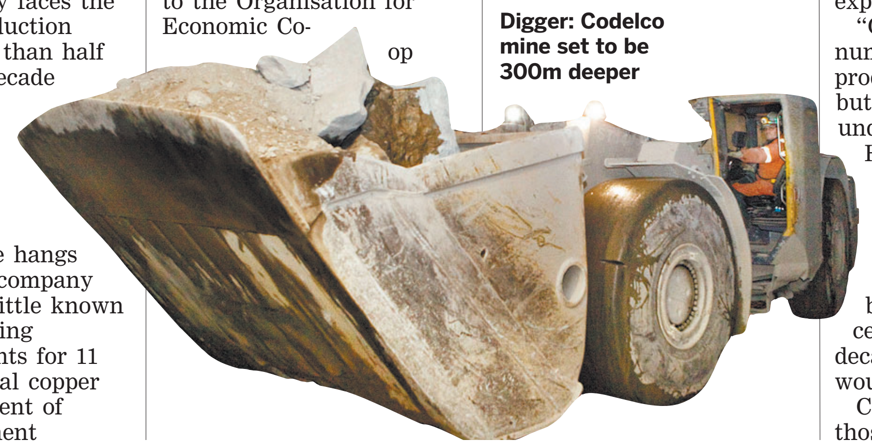
Yet a slow crisis is gripping the sprawling mine: production is slipping as it produces ore containing lower quantities of copper. Output fell to 404,000 tonnes last year from 437,000 five years ago.

El Teniente is emblematic of the challenges facing its owner, Codelco, Chile's state mining group. After years as a cash cow for successive governments, the world's largest copper mining company faces the prospect of production falling by more than half over the next decade at its ageing mines, unless it introduces an extensive programme of investment.

In the balance hangs the future of a company that, although little known outside the mining industry, accounts for 11 per cent of global copper output, 16 per cent of Chile's government revenues and is crucial to increasingly important Latin American-Chinese trade links.

In response to the dual challenges of ageing mines and a bloated workforce, the traditionally staid company is undergoing a quiet reinvention.

Following the passage of new corporate governance legislation in 2009 – a condition of Chile's entry to the Organisation for Economic Co-operation and Development – the company appointed a miner rather than a bureaucrat as its chief executive for the first time.



Digger: Codelco mine set to be 300m deeper

Since he took the reins a year ago, Diego Hernández, previously head of base metals at BHP Billiton, has set about transforming the company, pushing the government to allow him to invest billions of dollars in the construction of new mines, expanding old ones and cutting staff by 11 per cent in just a year.

Mr Hernández is under no illusion about the difficulties ahead. At the annual Cesco gathering of the copper industry in Santiago last month, he talked of "refounding" Codelco, reeling off a list of projects that amount to a $17.5bn five-year capital expenditure programme.

"Codelco has been the number one copper producer for many years, but in recent years it has underinvested," Mr Hernández told the FT.

Failing to make the planned investments was "not an option" because, without them, production would fall by more than 50 per cent by the end of the decade and the company would no longer be viable.

Codelco's plans mirror those of private sector miners around the world. Soaring prices of copper, iron ore and coal have encouraged the industry to invest a record $135bn this year, according to analysts at Sanford C. Bernstein.

But Codelco's circumstances differ from its private sector peers. Unlike them, it cannot simply reinvest bumper profits.

In response to the problem of ageing mines and a bloated workforce, the company is reinventing itself

A special law dictates that 10 per cent of the company's revenues each year go directly to the armed forces.

This is one reason the company's investments have fallen so far short of requirements since it was created in the nationalisation of Chile's mining industry in the 1970s. They have averaged about $850m a year in today's money.

"Before, you could delay," Mr Hernández says. "And of course in a state company you are always fighting for financial resources."

Despite earning $5.8bn in pre-tax profits last year buoyed by record copper prices – which in February rose above $10,000 a tonne for the first time – Codelco is still in negotiation with the government over the retention of just $600m of its profits to invest in its expansion plan.

The company has already lifted its debt burden to $6.5bn; in October it raised $1bn at a record low rate for Latin American corporate issuance.

Mr Hernández is aiming to keep debt below $9bn – leaving the company $2.5bn leeway.

Beyond that, he says, it could "think of something more creative" if necessary, perhaps by selling several years' worth of silver or gold by-products in one go, a type of deal known as a "streaming" agreement.

A dash of creativity may yet be necessary to keep the copper miner's plans on track.

Laurence Golborne, Chile's mining and energy minister, told the Financial Times that the government is supportive of Codelco's investment plans and will work to ensure the company maintains an investment grade credit rating.

But he added: "Debt is good to a certain level, because it's like a lion that runs behind the managers, making them run a little bit faster."

At El Teniente, the managers are already running fast. Codelco has signed off on a $3.3bn plan to expand the mine by digging a further level. At 300m below its deepest point, it almost amounts to building a new mine.

Commodities

Weather is more important than ever

Agriculture

Meteorologists have a vital role in face of fears of poor yields, reports Gregory Meyer

For farmers, commodity traders and food companies, 2011 is shaping up to be the year of the meteorologist.

Global supplies of commodities such as cotton, corn and soya beans are projected to be slim, with stocks falling to critically low levels by the time farmers in the northern hemisphere get combine harvesters rolling.

Even if they execute plans to expand acreage, the weather looms as an unusually important factor in this year's harvests.

Meteorologists "are the stars, and these guys know it", says Rich Nelson, director of research at Allendale, a brokerage in Chicago. "They will reign over price movements through July," when better data on crops in the ground arrive.

The picture so far has analysts nervous, if not panicked. In the US, the world's top agricultural exporter, deep snow or heavy rains have delayed corn planting in the important states of Indiana, Ohio and North Dakota at a time when their contributions are crucial, potentially shifting acres to soya beans. Dry weather from Texas to Poland has threatened wheat crops.

Mark Rzepczynski, who heads the funds group at natural-resources investor FourWinds Capital Management in Boston, says: "The weather and choices made today are going to have a big impact on prices three to six months from now.

"We like to think of corn and some other crops as Goldilocks commodities. They need almost perfect weather conditions: not too hot, not too cold, not too moist and not too dry."

Markets have responded. On the Chicago Board of Trade, corn left over from last year's US crop was in April trading at a $1.20-per-bushel premium to the benchmark futures contract linked to next year's crop. By mid-May that premium had been halved, reflecting new worries about this year's harvest.

The US Department of Agriculture says farmers will this year enjoy record prices for corn and wheat. Increases in commodities prices have stoked inflation and put pressure on governments in poorer countries, where food consumes a large part of household budgets.

High prices have an upside: the USDA projects record production of rice, oilseeds, and coarse grains such as corn and barley in the coming year.

The seasonal, renewable nature of agriculture challenges the concept – popular among Wall Street analysts – of an epochal commodities "super-cycle" of tightening supplies led by emerging-market demand. Yields continue to rise and tracts of arable land are still available in parts of the world, notably Brazil.

But economic and environmental trends are putting food producers to the test. Rising incomes in emerging economies mean more meat on the table, prompting livestock rearers in places such as China to abandon backyards for industrial-scale operations where animals are fed imported soya beans.

Biofuels production, encouraged by government subsidies, adds to demand that is, in some cases, insensitive to price.

The agricultural boom has sent farmland prices surging in the central US, according to the Federal Reserve Bank of Chicago.

At this month's Global Aginvesting conference, more than 550 institutional investors and fund managers filled a New York hotel ballroom to learn about farmland and agro-industrial investment, more than double the number two years ago, says Philippe de Lapérouse, managing director of hosts HighQuest Partners.

Soya beans may be a better bet than corn in rain-soaked states

Shares of companies involved in expanding the supply of raw commodities such as Yara International, the world's largest publicly traded nitrogen fertiliser supplier; and John Deere, the biggest tractor maker by sales and revenues, have soared alongside grain prices.

Deere said in second quarter results that income had jumped 65 per cent on a 25 per cent rise in sales. Earnings forecasts for the year rose to about $2.65bn.

Shortfalls in grain exporting regions, such as the Black Sea, have created opportunities for agricultural traders. Alberto Weisser, Bunge chief executive, says good conditions in the northern hemisphere are critical to replenishing corn stocks. "The prices are high enough. The farmers are going to make all the efforts to expand as much as they can. But now we need good weather," he says.

Higher input costs could hurt companies further down the supply chain, such as Pilgrim's Pride, the US chicken producer that is a unit of Brazil's JBS.

Livestock prices have moved closely in line with feed costs in many markets, however, shielding margins for many ranchers and farmers. This raises questions about whether global consumption will slow in a period of higher prices.

Unlike most other goods, food is not an optional purchase. Some analysts think a more likely response is political turmoil.